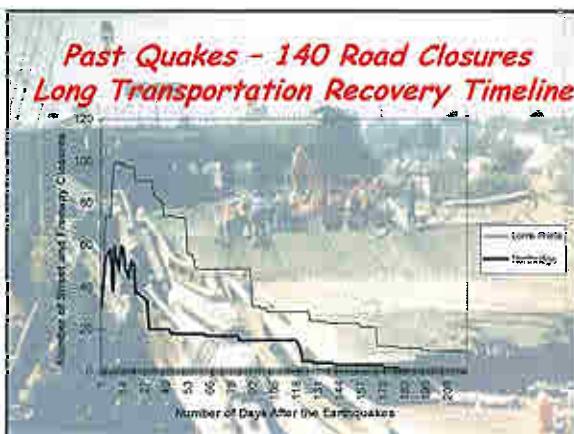


- 2000 "Don't Wing It" Project on AIRPORTS and EARTHQUAKES**
- 1 - Assess susceptibility of 3 international airport runways to liquefaction
 - 2 - Look at runway vulnerability of other airports, but with less detail
 - 3 - Look at vulnerability of access routes to airports
 - 4 - Begin facilitation of collaborative pre-planning for earthquake disruptions



- Next Time -**
- Hayward Scenario - 1,700 Road Closures and East Bay Cut Off Due to Fault Rupture
- What Does This Mean?**
- Our model for predicting the potential impacts of this damage should be the earthquake in Kobe or Hurricanes Katrina, not either of our recent California earthquakes.
 - We need our airports!

[illegible]

- **Liquefaction Damage to Runways**
- **Structural Problems**
- **Power and Communication**
- **Access TO-FROM Airports**

Building damage

Roads and sidewalk

Sand boils

Pipeline breaks

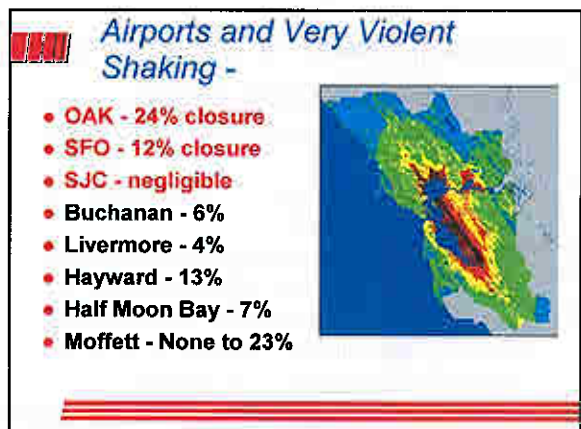
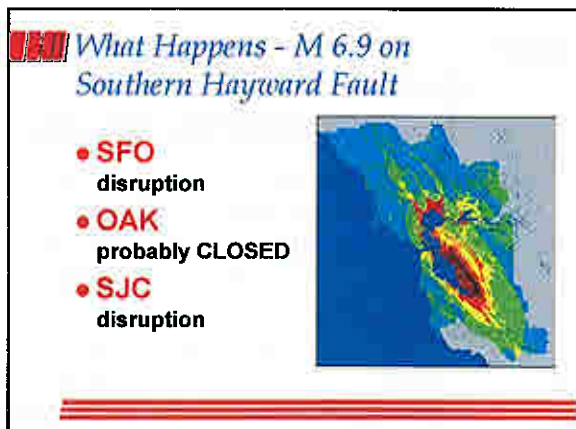
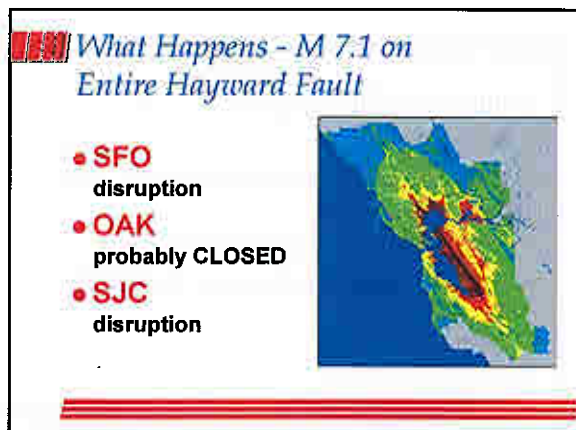
- **OAK - 80% closure**
- **SFO - 20% closure**
- **SJC - 30% closure (now negligible)**
- **Buchanan - 6%**
- **Livermore - 4%**
- **Gnoss Field - 30%**
- **San Carlos - 40%**
- **Palo Alto - 50%**
- **Moffett - None to 50%**

**All other Bay Area airports -
no significant liquefaction hazard**

Control Tower Windows Damaged in

- 1971 San Fernando
- 1987 Whittier Narrows + aftershock
- 1989 Loma Prieta (SFO, OAK, SJC)
- 1994 Northridge (Van Nuys Airport)
- 1995 Kobe (Osaka-Itami Airport)

Power and Communications Disruptions Also Common



IIII Airports and Road Access Assessment

Major Problems =

- OAK - Highest number
- SFO - Limited number + bridges
- SJC - Minimal disruption

IIII Recommendations of "Don't Wing It" Project

- More complete information on Moffett, Buchanan, and Travis AFB
- Develop recommendations on ways to deal with the runway damage issue
- Improve emergency planning and coordination among all transportation providers
- Ensure coordination with other out-of-region airports for emergency response

IIII Changes Since 2000

- SJC runway improvements
- 9/11 and focus on terrorism
- Hurricane Katrina
- Expansion of runway capacity issue to include need for a fourth airport
- Understanding that the "hole" (that is, deeper sediments) west of OAK can amplify earthquake shaking

IIII "Obvious" Activities

- Business continuity plan
- Staff training
- Mutual aid agreements and county-wide exercises
- Non-structural "contents" anchoring
- Retrofit of obvious structural deficiencies

IIII Recommended Needed Efforts

Hazard and Risk Assessment –

- More complete information on Moffett, Buchanan, and Travis AFB
- Develop recommendations on ways to deal with the runway damage issue

Emergency / Recovery Coordination –

- Improve emergency AND recovery planning and coordination among all transportation providers
- Ensure coordination with other out-of-region airports for emergency response AND recovery



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